

BEFORE THE
POSTAL REGULATORY COMMISSION

Periodic Reporting
(Proposal Four)

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:

Docket No. RM2016-12

United Parcel Service Comments On
Postal Service Proposal Four
Regarding Proposed Changes In Analytical Principles

(October 17, 2016)

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United Postal Service, Inc. (“UPS”) respectfully submits these comments in response to Proposal Four by the United States Postal Service (“Postal Service”), which proposes changes to the attribution of purchased highway transportation costs by revising the current assumption of 100% elasticity of purchased highway transportation capacity with respect to mail volume.

I. INTRODUCTION

The Postal Service states that the objective of Proposal Four is to “improve the methodology for calculating purchased highway transportation costs . . . [by] incorporating the variability of purchased highway transportation capacity with respect to volume into the calculation of attributable costs for purchased highway transportation.”¹ The result of the proposed change, however, would be to significantly decrease the costs that are attributed to products: the costs attributed to market dominant products would decrease by \$267 million, and the costs attributed to competitive products would decrease by \$255 million. Given the greater responsibility of market-dominant mailers for the institutional costs of the enterprise, Proposal Four could burden market dominant mailers by over \$200 million in additional costs.²

The Commission should scrutinize very carefully any request by the Postal Service to *reduce* variability and *reduce* cost attribution. Indeed, the Commission

¹ Petition to Initiate Proceedings (“Proposal Four”) at 2, Dkt. No. RM2016-12 (Aug. 22, 2016).

² The contribution from competitive products is only required to cover 5.5% of institutional costs (though it covered 13.3% in FY15). The decrease in attribution to products increases institutional costs by \$522 million. Market dominant products can ultimately bear up to 94.5% of these costs, or roughly \$493 million (for reference, 87.7% of \$522 million is \$458 million). This is of course only partially offset by the \$267 million decrease in attributable costs.

should be particularly skeptical of such a proposal in this segment, since the Postal Service has stated on various occasions that its transportation costs are growing due to increases in parcel volume — implying, that is, they are variable.³

The Postal Service has historically assumed a 100% variability of purchased highway capacity with respect to mail volume.⁴ That is, for every incremental increase or decrease in mail volume, there has been an assumed proportional incremental increase or decrease in purchased highway capacity. The Commission has viewed this assumption not as a final answer, but as a placeholder pending further study.⁵ Variability of capacity with respect to volume can in fact be either greater or less than 100%.⁶ Where additional volume can take advantage of existing excess capacity, variability will be less than 100%. The mere presence of excess capacity, however, does not mean that this capacity can be used to accommodate additional volume; a vehicle can be partially filled at one point along its route, and completely full at another. Where additional volume requires the purchase of capacity that will itself not be fully utilized, variability will be greater than 100%. Proposal Four is an attempt to supplant the historical assumption of direct proportionality of variability with an empirically derived value. But, for the reasons set forth below, it has failed to do so in a rigorous manner.

³ See e.g. “U.S. Postal Service Reports Fiscal Year 2016 Third Quarter Results” (Aug. 9, 2016) (“We continue to post double-digit gains in package volume and are well-positioned operationally for further growth.”) (available at https://about.usps.com/news/national-releases/2016/pr16_064.htm).

⁴ Proposal 4 at 2.

⁵ Postal Rate Commission, Opinion and Recommended Decision, Dkt. No. R2000-1 at 169.

⁶ *Id.*

The Postal Service supports Proposal Four with a study by Dr. Michael D. Bradley.⁷ As UPS's economic experts, Dr. Kevin Neels and Dr. Nicholas Powers of the Brattle Group, demonstrate in their report that accompanies UPS's comments,⁸ the Bradley Report relies on an incomplete and inappropriate dataset and utilizes unwarranted assumptions about the economic and practical constraints on capacity decision-making. The Bradley Report, therefore, cannot draw a meaningful conclusion from its flawed analysis.

In fact, according to the Brattle Report, a proper model to determine the elasticity of capacity with respect to volume cannot be constructed with the data that is presently available. As such, UPS asks the Commission to deny Proposal Four. In addition, UPS asks the Commission to alter the treatment of \$124 million of Christmas cost pools identified in FY15, treating them as 100 percent variable.⁹ UPS also requests that the Commission require the Postal Service to measure the composition of the mail carried on these routes and to attribute these costs accordingly.

⁷ See Research on Estimating the Variability of Purchased Highway Transportation Capacity with Respect to Volume ("Bradley Report"), Dkt. No RM2016-12 (Aug. 22, 2016).

⁸ Report of Dr. Kevin Neels and Dr. Nicholas Powers To Accompany UPS's Comments in Docket No. RM2016-2, Dkt. No. RM2016-12 (Oct. 12, 2016) ("Brattle Report") (attached hereto as Exhibit A).

⁹ See Section II.A.4 *infra*; Brattle Report at 19.

II. THE POSTAL SERVICE'S SUPPORTING STUDY SUFFERS FROM SERIOUS METHODOLOGICAL AND STATISTICAL FLAWS

The Postal Service's proposal to calculate the elasticity of capacity with respect to volume depends entirely on the Bradley Report. The Bradley Report, however, suffers from a number of theoretical and methodological problems. Specifically, its model: (i) inappropriately uses a dataset incapable of shedding light on route-by-route volume and excess capacity; (ii) relies on a dataset which, even if it were appropriate for the report's purposes, represents far too small a sample size to meaningfully generalize to the entire Postal System; (iii) fails to reflect how capacity decisions are actually made; (iv) is based on an overall approach that produces a similarly low estimate of the variability of capacity with respect to volume on a synthetic dataset constructed specifically to reflect a 100% variability of capacity with respect to volume.

The Brattle Report further criticizes the Bradley Report's choice to use moving capacity rather than cubic foot miles as the dependent variable in its analysis,¹⁰ the widespread indications of imprecision in the dataset,¹¹ and other technical statistical issues. The flaws in the Bradley Report are fundamental and preclude the Commission from approving Proposal Four.

A. The Bradley Report Inappropriately Uses The TRACS Dataset For A Purpose for Which It Was Not Designed

The TRACS system is a continuous statistical sampling system measuring volume, composition of that volume, and capacity at randomly selected stops

¹⁰ *Id.* at 32-33.

¹¹ *Id.* at 24-26.

throughout the postal system's transportation network.¹² Relevant for Proposal Four's purposes, TRACS measures the size of the truck and the total volume and empty space onboard on arrival at the sampled stop. Thus, the TRACS data likewise depicts the load the truck departed with from its previous stop. The data, however, cannot be used to determine volume and excess capacity beyond these points. There are roughly 9,000 sampled stops or "TRACS tests" per year.¹³ This data is collected for the purpose of estimating each individual product's share of the costs of contracted highway transportation in the measured fiscal year.¹⁴

No amount of data curation will allow the Bradley Report to draw the conclusions it seeks from this dataset for the simple reason that the TRACS dataset was not designed for and is not capable of accurately depicting the excess capacity along individual routes or even across the system as a whole.¹⁵ The Bradley Report's conclusions built on the TRACS data are, therefore, unreliable and misleading.

1. **The TRACS Data Cannot Be Used To Measure Excess Capacity Along Individual Routes**

The TRACS data gives a snapshot of the composition of the volume and the amount of empty space in the truck at the sampled stop, but it means little for the sake of determining excess capacity for the route to which that stop belongs. Most routes contain more than one stop, and many routes both load and unload at more than one

¹² See Transportation Costs System (TRACS) Documentation, USPS-FY15-36 at 3 (explaining basic information about the TRACS system) (available at http://www.prc.gov/docs/94/94357/USPS_FY15_36_TRACS.Preface.pdf).

¹³ See Brattle Report at 8.

¹⁴ *Id.*

¹⁵ See *id.* at 11-17.

stop along their route.¹⁶ Along every route there will be a stop that is the point of peak load where there is the greatest volume onboard. On routes where the truck is loaded only at its point of origin, and unloads at subsequent stops, the origin will be the point of peak load. On routes that both load and unload at every stop, the point of peak load might be any stop along the route.

If the truck is fully loaded at the stop of peak load, that route is at full capacity for the purposes of any mail that needs to travel through that stop. Thus, for purposes of a whole route, it is the stop of peak load that determines whether there is excess capacity along the route.¹⁷ Once the truck is fully loaded at the point of peak load, additional mail at that point will require the purchase of additional capacity, even if the truck is not fully loaded at various other stops along the route. Since they are randomly selected, TRACS stops will be the point of peak load along their respective routes only by chance.¹⁸ Further, there is no way to determine whether or not a TRACS sampled stop is in fact a point of peak load.¹⁹ As such, there is no way to measure the excess capacity of the sampled route from the TRACS snapshot.

Imagine that the TRACS data for a certain truck at a certain stop indicates the truck arrived only eighty percent loaded. There is no way to determine from the data how much of that twenty percent empty space was loaded at a prior stop or even how full the truck will be at subsequent stops. If subsequent stops will fully load the truck, any use of the twenty percent empty space at the sampled stop will require additional

¹⁶ See *id.* at 27.

¹⁷ See *id.* at 28.

¹⁸ See *Id.*

¹⁹ Unless, of course, the truck is fully loaded at the sampled stop.

capacity at the subsequent stop. Similarly, if the truck was fully loaded at a prior stop, that twenty percent is not excess capacity for the purposes of planning the route because a truck that is twenty percent smaller would not be able to handle the volume on the route.

In this way, the only relevant stop for purposes of route-capacity planning is the point of peak-load. However, the Postal Service constructs volume and capacity estimates from TRACS tests that sometimes reflect full or nearly-full trucks at peak load points, and sometimes reflect empty trucks, nearly-empty trucks, and partially full trucks at points that are almost certainly not peak load points since the relative share of each type of leg or stop is random. Accordingly, the resulting estimates incorporate a great deal of measurement error, thwarting the Postal Service's attempt to capture the relationship between volume and capacity. This infirmity exists in the TRACS system itself, and no modification to the Bradley Report's methods can correct it. Any attempt to accurately capture the relationship between system-wide or even route-level volume and capacity based on TRACS data is thus futile.

2. The Bradley Report Arbitrarily Excludes Data

The Bradley Report attempts to clean up the data by eliminating TRACS stops with zero volume.²⁰ Stops where the truck arrives with no mail on board are certainly not representative of the excess capacity of that route, but the difference between such a stop and one where the truck is 20% empty is one of degree, not kind.²¹ In eliminating zero volume samples, the Bradley Report seems to acknowledge the limitations

²⁰ See Bradley Report at 18.

²¹ See Brattle Report at 39.

inherent in the TRACS dataset,²² but then continues, unconcerned with the inaccuracy these limitations will impose on its conclusions. There is no telling from the dataset how much of the empty truck-space at a TRACS sampled stop, just like these zero-volume stops, has no bearing on excess capacity along the route.²³

Dropping the zero-volume samples substantially increases the Bradley Report's estimated variability across all route types.²⁴ The Brattle Report shows that one could similarly dismiss samples that report trucks only 10%, 25%, or 50% full. Certainly the greater the threshold chosen for exclusion, the more likely the remaining samples actually represent stops of peak capacity along their respective routes. Notably, where all samples with volume of less than 50% capacity are excluded, the Brattle Report finds that the variability estimates for the four route types range from 96.7% to 97.0%.²⁵

3. The TRACS Dataset Represents An Unacceptably Small Sample Size

Even if the Bradley Report's uses of the TRACS data were appropriate, the sample size for each route type is far too low to reliably extrapolate the total volume along that route type. Any such extrapolation can be expected to be far more volatile than the system it is estimating.²⁶ For instance, in the fourth quarter of Fiscal Year 2015, the TRACS dataset represents a sample of 1 in 9111 for intra-SCF routes, 1 in

²² See Bradley Report at 18 ("This [inclusion of data with no volume measure] could cause the data to understate the true relationship between the number of trips and volume and thus cause the estimated equations to understate the variabilities.").

²³ See Brattle Report at 40.

²⁴ See *id.* at 38-39.

²⁵ See *id.* at 39.

²⁶ See *id.* at 10.

1853 for inter-SCF, 1 in 575 for intra-NDC, and 1 in 194 for inter-NDC.²⁷ The Bradley Report then further exacerbates this sample size problem by dividing the data by individual day of the week.²⁸

The Brattle Report estimates that somewhere between 81-99.9% of the TRACS-based volume variation is a result of sample size noise which cannot be explained by volume variation based on the more reliable Revenue Pieces and Weights reports.²⁹ Total capacity, however, will be more accurately measured by the TRACS extrapolation, since truck size does not vary stop by stop along a given route. By comparing more accurately measured changes in capacity to excessively noisy changes in volume, variability of capacity will necessarily be biased toward zero.³⁰ The Brattle Report further documents the imprecision of the data, and catalogues the issues inherent with analysis based on such a small sample size.³¹

4. The TRACS Dataset Excludes Certain High-Cost Parcel Attributable Routes Such As Holiday Season And Emergency Routes

The TRACS system does not sample certain seasonal holiday and emergency routes.³² The cubic footage of mail transported on holiday routes in particular is likely to be more heavily comprised of parcel products than that of mail transported on regular

²⁷ See *id.* at 9.

²⁸ See Bradley Report at 31.

²⁹ See Brattle Report at 14-16.

³⁰ See *id.* at 37.

³¹ See *id.* at 8-26.

³² *Id.* at 12.

routes, and their exclusion here from the TRACS system further Proposal Four toward understating attribution of costs to competitive products.

Specifically, during the Brattle Group's analysis of the purchased transportation highway costs, it became apparent that \$124 million of routes identified as "Christmas cost pools" were being attributed using the same distribution keys applied to regular routes.³³ As the primary driver of peak season highway cost increase is likely parcel delivery,³⁴ it is highly likely that market dominant mailers are currently paying for an inordinate share of transportation capacity that is purchased in large part for competitive products. Using the Postal Service's existing attribution methodologies, \$65 of the \$124 million is currently being borne by market dominant products.³⁵ Under Proposal Four, that will increase to \$75 million.

In addition, the Brattle Group noted that the estimated capacity-to-volume variabilities from regular routes are also applied to these Christmas route costs under Proposal Four. This Postal Service practice is nonsensical, since the very existence of Christmas routes is driven by the inability of regular routes to handle the holiday volume surge.

In addition to rejecting Proposal Four outright, UPS also requests that the Commission require the Postal Service to better account for the nature of the mail

³³ *Id.* at 20.

³⁴ "Postal Service to deliver packages seven days a week during holidays" (Nov. 6, 2014) (available at https://about.usps.com/news/national-releases/2014/pr14_057.htm).

³⁵ This includes the costs attributed to market dominant products plus 94.5% of highway Christmas route costs treated as institutional.

volume carried on its Christmas routes. In light of public statements, it is clear that the Postal Service believes that its mail volume is fundamentally different during the holiday season than during the rest of the year.³⁶ Its costing practices should reflect those differences and not merely assume that regular routes during the corresponding quarter are an acceptable proxy.

B. The Bradley Report's Model Fails To Depict How Capacity Decisions Are Actually Made

The Bradley Report implicitly makes several assumptions that disregard the economic and practical constraints on Postal Service capacity decision-making. Specifically, the Bradley Report (i) assumes that capacity along a route (*i.e.* truck size) can be changed at each individual stop; (ii) assumes that capacity can be adjusted to match daily fluctuations in mail volume; and (iii) aggregates all route-type data into system-wide measurements, ignoring clear geographic postal volume trends and masking the asymmetrical incentives and constraints that arise from increasing volume in some regions and decreasing volume in others.

1. The Model Fails To Reflect That Capacity Decisions Are Made Route By Route

The Bradley Report appears to recognize the importance of analyzing the purchased highway transportation capacity at a level that is consistent with how

³⁶ Postal Service to deliver packages seven days a week during holidays (Nov. 6, 2014) (“‘Football has its season. But the holidays? That’s our season,’ said Donahoe. ‘That’s crunch time for us, and year after year, we step up our game. E-commerce package business continues to be a big player now more than ever, so we’ve enhanced our network to ensure America that we’ll deliver their cards, gifts and letters in time for the holidays.’”) (available at https://about.usps.com/news/national-releases/2014/pr14_057.htm).

decisions about capacity are actually made.³⁷ The report, however, fails to consider the unit of observation relevant for these purposes: the complete route.³⁸ Rather, the Bradley Report relies on the Commission's earlier analysis in Docket N2010-1, which used the TRACS system to measure changes in capacity and volume by days of the week. In doing so, however, the Bradley Report uses an improper unit of observation inherent in the TRACS system: random individual stops along random routes.

Use of this unit of observation to measure the excess capacity in the system implicitly assumes that the capacity at each stop can be adjusted to match the volume at that stop. For otherwise, as discussed above, the excess capacity at that stop is meaningless for route-planning purposes if that stop is not the point of peak load along that route. But it is unrealistic to assume the Postal Service has the capability to change truck size at every stop along a route to optimally match the volume at that stop. It is clear that capacity decisions are made at the route-by-route level, not stop-by-stop.³⁹

As discussed more fully above, the limitations of the TRACS data requires the Bradley Report to unrealistically generalize from the volume and capacity measurements at random stops to volume and capacity measures among the greater route-types. A truck's size, however, is not chosen as a result of the volume at any random stop along the route it will take. The only relevant stop, for purposes of route-capacity planning, is the point of peak load. The use of randomly sampled individual

³⁷ Bradley Report at 5 ("The unit of observation must both be consistent with economic decision making by Postal Service transportation managers and be consistent with collected variables in existing Postal Service data systems.").

³⁸ Brattle Report at 27-28.

³⁹ *Id.* at 28.

stops as the unit of observation, necessitated by the use of TRACS dataset, fundamentally undermines the reliability of the Bradley Report's model.⁴⁰

2. **The Model Implausibly Assumes That Capacity Can Be Adjusted In Response To Day To Day Variations In Mail Volume**

Because the Bradley Report in large part borrows the methods of the N2010-1 Docket,⁴¹ the analysis aggregates the data for each quarter by day of the week.⁴² That is, data from all Mondays in a quarter is considered together, all Tuesday data likewise, and so on. While this was a natural choice in N2010-1, where the topic under consideration was weekend deliveries,⁴³ there is no comparable justification for this daily segregation of the data here.

By dividing the data in this way for capacity analysis, the Bradley Report presumes that each day of the week is distinct and separate for the purposes of capacity planning.⁴⁴ That is, it assumes the capacity on one day of the week is entirely determined by the volume of mail on that day of the week, and has nothing to do with how much mail must be transported on the next or previous day. This assumption,

⁴⁰ See section II.A, *supra*.

⁴¹ Bradley Report at 6-12.

⁴² *Id.* at 16 ("TRACS observations were summed by fiscal year, postal quarter and day of the week ...").

⁴³ See Notice And Order Concerning A Postal Service Request For An Advisory Opinion On Changes In The Nature Of Postal Services, Dkt. No. N2010-1 (April 1, 2010) (considering the effect of eliminating Saturday Delivery).

⁴⁴ Brattle Report at 28-29.

however, is unsupported in the Bradley Report and is inconsistent with basic economic and operational realities.⁴⁵

While it is true that mail volume reliably varies by day of the week, it is not realistic to assume that the Postal Service can precisely match its daily capacity to its daily needs, especially without paying a premium to contractors whose trucks will then sit idle when not needed.⁴⁶ Due to such premiums paid for short term transportation, it is likely that the lowest cost solution for a series of days will be somewhere between the extremes of narrowly tailoring capacity to the precise volume of each day, and uniformly running the same capacity each day.⁴⁷

As the Brattle Report argues, “the plain implication of these economic realities is that decisions about how much capacity to supply on the different days of the week are interdependent.”⁴⁸ By treating daily capacity decisions as independent from any other daily decisions, the Bradley Report fails to reflect real world economic constraints in managing transportation capacity.

Furthermore, the Brattle Report estimates that day of the week variations account for between 60 and 88% of the total variation in volume in the Bradley Report’s dataset.⁴⁹ These daily variations can be expected to have a smaller impact on capacity planning than quarterly or yearly variation. The net effect, then, of treating this daily

⁴⁵ See *id.* at 29-31 (discussing the economics of contracting for highway transportation capacity).

⁴⁶ See *id.* at 29-30.

⁴⁷ See *id.* at 30.

⁴⁸ *Id.* at 30.

⁴⁹ *Id.* at 31.

variation as equally meaningful for capacity determinations is to bias the Bradley Report's estimation of elasticity of capacity with respect to volume toward zero.⁵⁰

3. The Bradley Report Fails to Consider Economic Factors

The Bradley Report's model is devoid of consideration of the ways in which real-world economic constraints affect capacity decision-making. The model fails to consider, for example, the price of marginal capacity, the degree of competition among potential providers, or the value or time sensitiveness of the mail that is transported.⁵¹

Because of this lack of concern for the underlying economics, the Bradley Report's model predicts absurd behavior on behalf of the Postal Service. A constant variability of capacity with respect to volume of less than 100% implies that, whenever there is an increase in mail volume, there will be existing excess capacity to deliver some of that increase. The Postal Service, thus, will never need to provide additional capacity proportional to an incremental increase in volume. If volume continues to increase, however, there must come a point where existing capacity is fully utilized. At this point, the Bradley model would predict that the Postal Service would continue to under-purchase capacity, allowing a capacity deficit, and an increasing volume of undeliverable or delayed mail.⁵²

Further, constant variability of less than 100% implies that, as volume falls, the Postal Service will allow capacity utilization to fall without limit. It strains credibility to assume that the Postal Service would uniformly decline to reduce capacity in proportion

⁵⁰ *Id.*

⁵¹ *See id.* at 31.

⁵² *See id.*

to declining volume even when trucks are only 50%, 25%, or 10% full. Even where the trip rate has already been reduced to one per day along a given route, truck size may be reduced to reduce cost and increase the utilization rate. The Bradley Report's model thus predicts that the Postal Service would allow inefficiencies to build up throughout the system without limit in response to either increasing or decreasing volume.⁵³

4. The Model Fails To Account For Geographically Distinct Mail Volume Trends

The Bradley Report aggregates TRACS data over the entire postal network and seeks to give a single nationwide solution for the variability of purchased highway transportation capacity with respect to mail volume for each route type.⁵⁴ In doing so, the Bradley Report presents its analysis at the highest level of generality and ignores important geographical differences between different regions of the Postal System. For example, certain regions of the Postal system have seen increasing volumes, while others have seen sharp declines.⁵⁵ A nationwide analysis masks these trends and unnecessarily muddies any variability calculations.

The Brattle Report estimates that regional annual growth trends may range from as low as -27% to as high as +13%.⁵⁶ Where one region of the country has seen a large increase in volume, while another has seen a large decrease, the variability analysis for each region may be quite different, although an average of the two regions might show only a minimal change. Where volume increases beyond current capacity, operational

⁵³ See *id.* at 32.

⁵⁴ See Bradley Report at 13-17.

⁵⁵ See Brattle Report at 34-36.

⁵⁶ *Id.* at 35.

concerns require the Postal Service to purchase additional transport capacity or delay delivery.⁵⁷ Where volume drops, there is no equivalent operational concern, only the concern of cost. The Postal Service may choose to let the excess capacity run for a time.⁵⁸ Geographically distinct trends, and therefore geographically distinct variability and motivations as to capacity decision-making are entirely ignored in Proposal Four.

III. ANALYSES ON SYNTHETIC DATASETS DEMONSTRATE THAT THE BRADLEY REPORT'S METHODS NECESSARILY PRODUCE BIASED RESULTS

The Brattle Report documents a simulation using the Bradley Report's methods on synthetic TRACS-like datasets.⁵⁹ The simulation models a realistic but somewhat simplified postal network of distribution centers, population centers, routes distributing mail, and stops along those routes. The simulation defines various categories of routes analogous to the categories studied by the Bradley Report. These routes collect new mail, redistribute mail among distribution centers, and deliver mail to final destinations, just as the postal service's routes do. Capacity decisions are made in the simulation to perfectly adjust to present volume within the quarter, and accurately foresee future changes in volume. The capacity of each individual route is set precisely to the quarterly needs of that route.⁶⁰ That is to say, the simulation's elasticity of capacity with respect to volume by construction is 100%.

⁵⁷ See *id.* at 36.

⁵⁸ See *id.*; see also Bradley Report at 3 (acknowledging that increases and decreases in volume have asymmetrical effects on capacity decision-making).

⁵⁹ See Brattle Report at 40-47.

⁶⁰ See *id.* at 41.

The Brattle Report then applies the Bradley Report’s methodology, and takes samples of the of volume and capacity of various stops to create TRACS-like datasets.⁶¹ When the TRACS-like system “samples” every single stop, variability is correctly calculated to be 100%.⁶² As the TRACS-like system’s sample rate is reduced toward the rates actually used in TRACS, the dataset becomes less likely to include the stops of peak capacity along various routes, and measured variability estimates fall. The following tables summarize the Brattle Report’s simulation’s findings regarding intra- and inter-zone routes using progressively smaller sampling rates:⁶³

Results from Regressions on Synthetic Data: Quarterly Inter-Regional Specification

Population Results		
	Variability Estimate	p-Value on Null Hypothesis (Variability = 1)
	0.99	0.6090
Summary of Estimation Results from Sampling Exercise		
Sample Rate	Average Variability Estimate (over 100 samples)	Rejection Rate (over 100 samples)
Using a 10% Sample	0.48	0.96
Using a 2.5% Sample	0.17	1.00
Using a 1% Sample	0.08	1.00

⁶¹ See *id.* at 42.

⁶² See *id.*

⁶³ See *id.* at 43-44 for a more complete discussion of these results.

Results from Regressions on Synthetic Data: Quarterly Intra-Regional Specification

Population Results		
	Variability Estimate	p-Value on Null Hypothesis (Variability = 1)
	1.00	0.7872
Summary of Estimation Results from Sampling Exercise		
Sample Rate	Average Variability Estimate (over 100 samples)	Rejection Rate (over 100 samples)
Using a 10% Sample	0.96	0.08
Using a 2.5% Sample	0.83	0.48
Using a 1% Sample	0.65	0.82
Using a 0.1% Sample	0.15	1.00

These results are a conceptually clear consequence of the fact that the volume in TRACS sampled stops are actually representative of the volume along that route only by chance, while the route's aggregate capacity will be much more accurately measured since it does not change across stops. Measured changes in volume over time will be increasingly likely to be a result of data noise as the sampling rate decreases.⁶⁴ By comparing an accurate representation of capacity with this excessively noisy measure of volume, the bias towards zero of the corresponding variability estimate is unavoidable. The methodology employed in the Bradley Report is not capable of accurately recovering the true variability in the data. Since the Bradley Report would conclude that the elasticity of capacity with respect to volume is less than 100% whether or not it is in fact 100%, the Commission should not give it any credence.

⁶⁴ *Id.* at 45.

IV. CONCLUSION

The variability of purchased highway transport capacity with respect to mail volume deserves further study. The goal is a worthwhile one: to improve the accuracy of the attribution of purchased highway capacity costs to various products. However, as the Brattle Report has exhaustively documented, the Bradley Report can not be the basis for such an improvement. The current assumption of 100% elasticity of capacity with respect to volume is a placeholder, and should by all means be replaced by a value that more accurately represents the facts on the ground. Unfortunately, Proposal Four is a step in the wrong direction. UPS respectfully asks the Commission to reject Proposal Four, and not to consider further Postal Service proposals on this topic until the Postal Service undertakes to gather appropriate and sufficient data to study the issue. In addition, UPS asks the Commission to Order the Postal Service to re-categorize increases in transportation costs during peak season as “product specific” to competitive products.

Respectfully submitted,

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